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# Newborn Kangaroo Care Immediately after Cesarean Birth

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Newborn Kangaroo Care Immediately after Cesarean Birth

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### Clinical Leadership Theme

For the project Skin-to-Skin Contact (SSC) or kangaroo care immediately after cesarean birth, the Clinical Nurse Leader (CNL) will assume the Educator and Outcomes Manager roles. As the educator, the CNL will design an educational module for the staff. The educator will evaluate the educational plan, roles of the team, and effectiveness of the change. As the clinical outcomes manager, the CNL will develop a systematic performance improvement project using evidence-based research to guide clinical outcomes for the patient. The global aim is to improve exclusive breastfeeding rates from 76% to 80% in the Perinatal Unit during the newborn's hospital admission by February 2018.

### Statement of the Problem

According to the World Health Organization (WHO) (2003), hospitals should support maternity patients with breastfeeding education and support. The Joint Commission (TJC) has established exclusive breastfeeding in the hospital as a core measure, and has set a target goal of 80% for exclusive breastfeeding during the acute care stay. This process begins with SSC, newborn's bare chest placed on mom's bare chest immediately after birth, which does not exclude the operating room (WHO, 2003). Presently in the operating room (OR), mothers are rarely able to hold their newborns and they are typically placed under a radiant warmer (Zanardo et al, 2010). Currently, nurses in Labor and Delivery (L&D) unit place the baby SSC infrequently. Baseline data for skin-to-skin (STS) holding in this setting reveals that the practice occurs only 55% of the time after cesarean (c)-section birth.

### Project Overview

The Institute for Health Improvement (IHI) Quadruple Aim was used to guide this project. The quadruple aim is described as enhancing patient experience, improving population

health, reducing costs, and decreasing provider burnout. The site and microsystem for this project is L&D unit from a large medical center in the Northern California Area, which is a level three delivery center that can accommodate high risk patients and deliveries. The plan is to complete a baseline assessment, meet with the key stake holders and multidisciplinary team to present current data and establish a collective agreement to adopt this quality improvement project. Once approved, the STS Committee will develop an educational plan for the multidisciplinary team and patients will be well informed of the STS process in the OR.

The specific goals of this project is the newborn will be placed STS in the OR within ten minutes of birth and the second nurse in the OR will help facilitate the placement. STS placement immediately after birth increases the chances of successful exclusive breastfeeding rates (Conrey and Cottrell, 2015). Exclusive breastfeeding facilitates healthier babies and transitions them into healthy adults, overall improving population health (Conrey and Cottrell, 2015). The specific aim of the project is to improve the percentage of baby's bare chest placed STS on mom's bare chest immediately after c-section birth from a baseline of 55% to 65% and standardize the process by August 2017.

#### Data Source/Literature Review

#### **PICO Question**

A literature review was conducted by answering the following PICO question: Do women who deliver via c-section (P) and choose to do SSC (I) versus women who are not able to perform SSC in the OR (C) improve exclusive breastfeeding rates (O)? The articles in the literature review relate to implementing STS in the OR and the barriers or benefits in relation to exclusive breastfeeding rates for newborns.

## Search Strategy

An electronic search was conducted in February, 2017 in the Cochrane Database of Systemic Reviews, CINAHL Complete, and PubMed databases using a combination of the following search items: c-section, skin-to-skin, newborns, golden hour, kangaroo care and breastfeeding. Limitations were set to include English only, research, and publication dates no earlier than 2000. The search yielded numerous articles that met the search criteria and some are included in this review.

STS immediately after birth provides immediate benefits to facilitation of breastfeeding (Hung and Berg, 2011). Facilitating STS between mother and baby at birth can be very challenging after cesarean delivery. Despite the obstacles, SSC helps the mother to breastfeed successfully and leads to many life-long health benefits (Moore, Anderson, Bergman, Dowswell, 2012). Placing the baby directly on mom's chest has increased patient satisfaction with the connection and bonding between mom and baby. STS placement in the golden hour of life increases the chances of successful exclusive breastfeeding (Burke-Anderson, 2015). Exclusive breastfeeding facilitates healthy babies that transitions with them until adulthood and the rest of their life, overall improving population health (Conrey & Cottrell, 2015). SSC is a catalyst to exclusive breastfeeding which reduces formula usage in the hospital therefore, reducing costs. "An estimate that the United States would save \$13 billion annually if 90% of infants were exclusively breast fed in the first six months of life" (Hung & Berg, 2011, 319).

Currently, there is a huge difference in exclusive breastfeeding with newborns born via c-section versus vaginal delivery. A non-experimental observational study directed by Zanardo et al. (2010), looked at 2137 term infants delivered at the Department of Pediatrics in the University of Padua's School of Medicine in Italy. Electronic medical records (EMR) was

evaluated for breastfeeding initiation rates and a telephone follow-up interview for exclusive breastfeeding rates at seven days and at three and six months. Breastfeeding rates of a vaginal delivery were 87 % at discharge, 83 % at 7 days, 69 % at 3 months, and 59 % at 6 months. Breastfeeding rates of a cesarean section were 73 % at discharge, 74 % at 7 days, 55 % at 3 months, and 42 % at 6 months. In conclusion, vaginal deliveries had higher exclusive breastfeeding rates. One of the main differences between the two types of deliveries is SSC initiation. In the vaginal delivery STS can happen immediately and in the OR STS is often delayed until the patient is in the recovery room and newborns miss the benefits of early initiation. This study supports the project aim because of the disparity in exclusive breastfeeding rates dependent on the type of delivery.

The following articles reviewed the effects of STS in the OR with exclusive breastfeeding rates and benefits. Conrey and Cottrell (2015) conducted a quasi-experimental study using convenience sampling with forty-one mothers who delivered via c-section, term, and healthy newborns at delivery in Women's Pavillion Hospital. One group placed the newborn STS and the control did not. An exclusive breastfeeding survey via telephone was completed at four and twelve weeks postpartum and chart reviews in the hospital. The research shows the participants who experienced immediate STS in the OR had earlier breastfeeding initiation, significantly greater exclusive breastfeeding rates, and increase maternal satisfaction than the control group, which further support my project aim to place baby STS immediately after birth.

Early SSC after birth results in better breastfeeding, cardio-respiratory stability, thermoregulation, and blood-glucose levels (Gregson, Meadows, Teakle, & Blacker, 2016). A study by Gregson, Meadows, Teakle and Blacker (2016) performed a random control trial (RCT) of 366 women having an elective c-section at term and choose to exclusively breastfeed at a



district general hospital in Southeast England. One group placed the newborn STS and the control initiated STS in recovery room. Exclusive breastfeeding rates were measured at forty-eight hours, ten days and six weeks. The participants who had immediate STS contact in the OR had 100% exclusive breastfeeding rates at forty-eight hours and higher sustained rates at ten days and six weeks. Gregson, Meadows, Teakle, and Backer argue that initiating STS contact in the OR promotes increased exclusive breastfeeding rates and patient satisfaction. This study supports the project aim because it shows how early STS in the OR intervention can increase exclusive breastfeeding rates with early initiation and enhance patient experience.

Immediate STS contact has considerable benefits because it requires minimal financial resources, is not associated with adverse effects among healthy infants, shows an overall positive effect on breastfeeding, and appears to improve newborn stabilization during transition (Hung and Berg 2011). An experimental study with retrospective data analysis was conducted by Hung and Berg (2011), by analyzing data on all healthy infants born via c-section at General Hospital in San Francisco. The data observed was STS initiation time, breastfeeding latch scores, and formula supplementation. After the STS intervention in the OR, exclusive breastfeeding rates increased, the use of formula decreased by 17% during the newborn admission. This study supports the project aim because it shows how STS in the OR intervention can increase exclusive breastfeeding rates with early initiation.

STS in the OR is important for newborns to have increased exclusive breastfeeding rates and other benefits. In a RCT conducted by Velandia, Uvnas-Moberg and Vissen (2011) studied the possible differences in newborn breast-seeking behavior and breastfeeding initiation between the mother and the father. The study included primipara healthy mothers with uncomplicated pregnancies delivering at term via a scheduled c-section in Stockholm, Sweden. The experiment

revealed that newborns started breastfeeding earlier if they had continuous SSC with the mother, female infants were rooting and breast-seeking earlier than male infants, and mothers were more interactive with the newborns than the fathers. Although the results were more beneficial if STS was completed with the mother, SSC with the father is a great alternative when mom is not stable and promotes bonding time. This study supports the project aim because it shows the importance of SSC with the mother and the benefits to the newborn regarding exclusive breastfeeding initiation time and cues.

SSC has benefits not only to term babies but to low birth weight infants as well. Charpak et al (2017) completed a retrospective study of a previous RCT with SSC done 20 years ago. The original study was SSC intervention and the control group did not. Charpak et al. (2017) reviewed 264 newborn participants weighing <2000 grams at birth from Columbia to evaluate the effects of STS later in life. There was no overall or specific differences in mean IQ scores, cerebral palsy rates, both groups were short in stature, and equivalent in math and language scores. This study indicates that the SSC group had significant, long-lasting social and behavioral effects, reduced school absenteeism, reduced hyperactivity, aggressiveness, social-deviant conduct of young adults and were more employed. Parents of the SSC group were more protective and nurturing. In the SSC group, neuroimaging also showed larger volume of the left caudate nucleus and increased in volume with longer SSC. Overall the SSC group had slightly less severe abnormal neurologic results than the control group. This study correlates to the project aim because it supports the long term benefits of SSC in the OR.

#### Rationale

TJC and AWHONN (2014) recently adopted SSC in the OR as a standard of practice to increase exclusive breastfeeding rates greater than 80% and is a performance improvement goal

of the Perinatal Team in the microsystem for the last three years. One of the evidence-based practices to achieve exclusive breastfeeding is STS immediately after birth in the OR or in the L&D delivery room (AWHONN, 2014). STS has been widely accepted after vaginal deliveries due to evidence-based research (WHO, 2003), patient request, and staff buy in. However, the OR presents many obstacles to performing STS and staff has been reluctant to implement this change. Promptly after birth, a nurse will place the baby prone on mother's chest and remain with them to ensure appropriate observation while in the operating room (Colson, 2014, pg 41). The present practice in the perinatal OR is mothers are rarely able to hold their newborns and typically placed under a radiant warmer (Zanardo et al, 2010, pg 275) and is completed only 55% of the time.

Based on a microsystem assessment, education to the staff must incorporate many different learning approaches. Prior to implementation, education consists of a fifteen-minute monthly staff meeting for two months, two-minute shift change huddle for one month, and ten-minute one-on-one support with and educator or assistant nurse manager on proper technique for STS and charting. After six months from the go-live date nurses will complete a fifteen-minute healthstream module to solidify their practice. In L&D nurses and the educator on average make \$60 an hour with the total start-up costs \$6580 (see Appendix A for budget table).

According to Bartick and Reinhold (2010), exclusive breastfeeding prevents otitis media in newborns. In order to calculate the cost savings for this project, the CNL will use Bartick and Reinhold's (2010) study with Agency for Healthcare Research and Quality's (AHRQ) calculations on otitis media at \$291 cost per episode per newborn. At this cost, it would take twenty-two newborns to cover the total start-up costs. On average, a hospital in San Francisco has 280 births per month. Currently, the perinatal unit has an exclusive breastfeeding rate of 76% (212 newborns)

and the goal is 80% (224 newborns). If STS increases 10% it is proposed there will be a 4% increase in exclusive breastfeeding. Through STS there will be an increase of twelve newborns that are exclusively breastfed per month. In two months, twenty-four more newborns will be exclusively breast fed, otitis media will be prevented for these newborns, and the total start-up costs of the project would be cost mutual (see Appendix B for the ROI table).

### Methodology

Rodger's Change Theory, IHI Quadruple Aim Improvement Theme, and the conceptual framework were used to develop the performance improvement project. A SWOT analysis is used to evaluate the strengths, weaknesses, opportunities and threats to assess the baseline of the unit and design a project plan (see Appendix G for SWOT table). A fishbone diagram was completed to find the root-cause analysis, a driver diagram showed the clear direct objectives effecting the aim, and a stake holder diagram was created to determine key players in the project that needed to approve it and address any barriers (see Appendices).

### Educational Plan

An optimal educational plan will include multiple methods of education delivery for staff to capture their attention and address their learning needs (see Appendix C for project charter). There will be formalized monthly staff meeting where the educator will complete a 15-minute group presentation on STS in the OR changes for the entire perinatal department, provide a copy of the STS highlights, introduce the STS resource binder that has evidence-based articles to support the change in practice, state the binder location, and address any pressing concerns from the staff. During shift change staff huddles, assistant nurse managers (ANM) will cover highlight with the changes, specifically in the Labor and Delivery department to provide a more focus guide to their practice. The nurse educator will complete one-to-one education to facilitate filling

any education gaps, assess for proper charting, and address concerns that nurses want to raise privately. Upon completion of a 10-minute one-to-one education, nurses must sign that they receive and understand the new change in protocol. In Labor and Delivery, the workstation on wheels, computer desks, and communication boards will have a list of SSC benefits, changes, and directions on how to chart in epic. Every shift and unit will also have an SSC champion to provide additional support to the nursing staff. After six months nurses will complete healthstream modules. Healthstream is an interactive computer-based electronic educational tool that uses power point-style modules with animation to captivate the learner's attention and educational needs to disseminate content. The nurses will receive one module to understand the benefits of STS, how to properly place a baby SSC on mom in the operating room, and know where to document SSC has been completed.

### **Change Theory**

Rodger's Diffusion of Innovation Change Theory will be used to implement SSC in the OR suite after cesarean delivery. Currently, most nurses are in the knowledge phase because they have been exposed to the benefits of SSC and promotion of maternal-infant bonding in the "Golden Hour" (Burke-Aaronson, 2015, p 105). In the persuasion stage, nurse leaders will disseminate the new change in evidence-based practice and the benefits in huddles, weekend memos, flyers and emails with resources. The decision phase is difficult to measure because it is a personal process the floor nurse completes to weigh the pros and cons. During this process, a questionnaire will be given to staff at imperative times to see the reasons why and when they chose to adopt the innovation. The questionnaire will also include open-ended questions about barriers that made them apprehensive about the new change in practice. There will also be a suggestion box available for nurses to raise concerns. In the implementation phase, the leaders

will be present for all cesarean deliveries to assist the nurses in SSC. Confirmation stage is when the nurses solidify STS practice in the OR, embraces the change, and incorporates it into their day-to-day practice. The Rodger's Diffusion of Innovation Change Theory is appropriate to guide the SSC in the OR project because there are many different phases a nurse must accomplish and internalize before it becomes the standard of practice. This change theory is most befitting and imperative because it addresses the different changes a nurse feels and the culture of the unit during a process change.

### **Improvement Theme**

The Institute for Health Improvement quadruple aim is used for the improvement theme because it encompasses all aspects that are required to have a successful performance improvement project. The Quadruple Aim is enhancing patient experience, improving population health, reducing costs, and decreasing provider burnout. Burnout is associated with lower patient satisfaction, reduced health outcomes, and it may increase costs (Bodenheimer and Sinsky, 2017). Patient experience for operative deliveries is not ideal. Many mothers feel very disconnected with the birthing experience because traditionally in the operating room setting, the baby is directly taken to the warmer to be examined and then to the nursery to be watched until mom is out from recovery. Placing the baby directly on mom's chest has increased patient satisfaction with the connection of mom and baby. STS placement in the golden hour of life increases the chances of successful exclusive breastfeeding. SSC mandates a second nurse in the operating room, one for each patient, which decreases provider burnout with extra support.

At the beginning of a project implementation, staff must feel supported and resources must be available for questions and concerns. The CNL will attend c-sections during Monday through Friday and available for code or urgent c-sections during day and the evening shift. The

prediction is STS in the OR will be more successful than the projected 10% increase because of the commitment of nurses who believe that this practice improves outcomes and the patient experience. The perinatal nurses will implement improvement changes if it is patient-centered, backed by evidence-based research, and is well adopted as the community standard by bona fide organizations. The CNL will affirm the prediction by collecting data from the EMR. In Epic, the CNL will investigate in the Nursery Admission Navigator under the STS tab to see if it has been completed less than ten minutes and through feedback from the staff. Champions will also be placed for all shifts to provide supportive measures for the staff in placement, documentation.

#### Timeline

The project began in January 2017 and will conclude December 2017. In January, baseline data was collected for all c-sections to present to the multidisciplinary team. In February, March, and April the CNL met with the multidisciplinary team that consisted of the pediatric team, nurse leadership for L&D and NICU, OB doctors, L&D nurses, and the anesthesia team to discuss the relevance of this project and develop an educational plan for staff. May 2017, there was interdisciplinary discussion and the go-live date would be August for STS in the OR. Some OB doctors and anesthesia staff have encouraged the nurses to start STS in the OR. In June and July, the educator will present in the monthly staff meetings, and ANMs will announce the changes at shift change huddles. In July and August, the CNL will provide one-on-one support in the OR. By the end of August, all education and one-on-one will be completed and data collection for sustainability on results will continue monthly until December 2017. Six months after implementation, February 2018, the staff will complete the healthstream module for sustainability and solidify the change in practice.

### Expected Results

During preliminary discussions with nurses, nurses were a little apprehensive about performing STS in the OR because the role of the second nurse has been to act as an assistant to the primary nurse's duties. After conferring with the STS Committee, it was decided that the CNL would educate the nurses on skills day that according to AWHONN guidelines (2014), the primary nurse is for the mother and then secondary nurse is for the baby. After skills day, the nurses were more accepting of the change and the secondary nurse officially stayed with the baby to facilitate STS. With a designated staff member for the baby and focused on STS, the change could be successfully adopted and surpass the initial 10% goal.

### Nursing Relevance

The nursing relevance of SSC in the OR is it assists with increasing newborn exclusive breastfeeding rates in the acute stay and sustained rates. STS in the OR advances nursing professionalism because it utilizes current evidence-based practice in the critical care setting. It has proven benefits for the health of mom and baby both in the short and the long term. In the perinatal profession, STS in the OR contributes to increasing overall population health (Hung and Berg, 2013). STS intervention is directly correlated to an easier transition to breastfeeding, exclusive breastfeeding, and healthier babies (Cottrell and Conrey, 2015). Patient-centered care is the new standard in nursing practice and is required in the nursing profession. STS in the OR enhances bonding and increases patient satisfaction by creating a natural birth experience.

### Summary

The STS Committee established multiple PDSA cycles to work on the foundation, implementation, and sustainability of STS in the OR. The first PDSA was created for the process measure of establishing two nurses for all OR deliveries by May 2017. The results were collected



by the charge nurses from a data collection tool. By May 2017, the results revealed that there were two nurses in the OR 95% of the time. Based on these findings, the team agreed that having adequate staff in the OR was sufficient and in order to maintain this standard staffing should be at core of eighteen for all shifts.

The second PDSA was constructed to collect data on the outcome measure if STS was performed in the OR in less than ten minutes. Baseline data revealed that the nurses in the L&D unit do not complete STS in the OR regularly. The goal of this project was to increase STS in the OR from 55% to 65% by August 2017. Data was collected via chart review of the EMR based on the nurses charting during June 19 - July 19, 2017, the results revealed that STS in the OR is occurring at 70% of the time, which exceeded the specific aim of this project.

The third PDSA was created to test the balance measure of increased hypothermia in infants due to STS. Data was collected on newborn temperatures after birth via chart review in the EMR. Out of 43 newborns successfully placed STS only 1 newborn had a low temperature.

Education was successfully completed to 85% of the L&D staff nurses. This has a correlation to the success rates in this project. However, the perinatal microsystem has frequent turnover of staff. Therefore, in order to establish STS as the normal process, there must be an exceptional sustainability plan.

The STS performance/quality improvement project was a success. Through education and proper systematic role out, the perinatal unit was able surpass the goal by 5% prior to the go-live date.

### **Sustainability Plan**

The sustainability plan is for the CNL to onboard all new staff with the STS healthstream modules, audit charts on a bi-weekly basis, be a resource for the L&D staff, and have champions

in place to provide continuous support on all shifts. The CNL will provide coaching and mentoring to all staff members until the change has been adopted and becomes the standard of practice. There will be laminated job aids with clear directions on STS goal time, where to chart STS, and the purpose of the second nurse in all delivery rooms, including the OR. During the floor orientation, new staff arrive ie travelers, L&D nurses, OB techs, anesthesia team, or OB doctors, the nurse educator or champions will educate new staff on the STS process in the OR to sustain change.

There are a lot of lessons learned with designing and coordinating the role out of a new performance improvement project. I learned it is essential to establish a true baseline with factual data versus an estimate to guide the design of the project. The assessment of a microsystem is mandatory to develop credibility, foundation, and understanding prior to planning. Utilizing quality evidence-based research is imperative to ensure staff and leadership buy in. I learned how to search credible evidence-based articles using the John Hopkins nursing evidence-based tool.

Overall, this project has incorporated many CNL roles and I gained a true understanding of the importance of a CNL. The CNL is a an all-encompassing, generalized professional who coordinates, designs, integrates, develops teams, educates, communicates effectively, coaches and mentors. They bridge the gap between multidisciplinary teams to establish safe patient care and increase staff adherence to quality practices. Simultaneously, CNLs can facilitate and guide organizations to financial success, create an environment of exceptionally trained staff, and increase patient satisfaction.

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## Appendix A

## Budget

## Total start-up costs

\$60/hour for staff and educator	10-minute Healthstream module	15-minute monthly staff meeting for 2 months	2-minute shift change huddle for 1 month	10-minute one-on-one educational support	Total start- up costs
Staff Nurse 90 L&D nurses	\$900	\$1800	\$1800	\$900	\$5400
Educator	\$10	\$90	\$180	\$900	\$1180
Total Investment					\$6580

## Kangaroo Care in the Operating Room Project

## Estimated Costs for Labor and Materials

Materials:	First Year Costs:	Second Year Costs:
Equipment	N/A	N/A
Supplies: warm linens, thermometers, and timer.	Using existing equipment	N/A
Charting Tools	Using existing Epic Charting	N/A
Computer	Using existing Work Station on Wheels Computers	N/A

## Appendix B

## ROI Table

280 births/month  Current exclusive breastfeeding rate 76% (212 newborns)	Otitis Media is \$291/episode 1st month	2 <sup>nd</sup> month
STS in OR increases 4% = exclusive breastfeeding rate 80% (224 newborns)  Increases by 12 newborns per month	12 more newborns exclusively breastfed= a cost savings of  \$291x12= \$3492	12 more newborns exclusively breastfed= a cost savings of  \$291x12= \$3492  \$3492+\$3492=  \$6984 cost savings at 2 months
		ROI is Cost Mutual at 2 months

**Appendix C  
Charter**

**Newborn Kangaroo Care Immediately after Cesarean Birth**

**Microsystem Clinical Performance Improvement**



Clinical Nurse Leader (CNL) Internship Project  
Academic-Practice Partnership with San Francisco  
Kaiser Permanente and University of San Francisco

Sarah Abdolcader  
University of San Francisco  
March 4, 2017

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## Introduction

The purpose of the Perinatal Microsystem at Kaiser San Francisco is to delivery healthy babies in the safest route for mom and baby with minimum adverse outcomes or complications. The patient population in perinatal is primarily in the childbearing age groups. According to the fourth quarter of 2016, patients <20 years (yrs.) old is 1%, 20-24yrs is 6%, 24-29yrs is 13%, 30-34yrs is 40%, 35-39yrs is 29%, and patients > 40yrs is 11%. Most patients have a vaginal delivery (77%) and the rest deliver via cesarean© section (23%). The multidisciplinary team ensuring safe deliveries consists of doctors, nurses, and scrub techs. There is one medical director, three perinatologists, five hospitalists, and sixteen residents. Doctors and residents deliver babies via vaginally and c-section, enter in orders, direct patient care, and perform procedures. Nursing leadership has one director, two managers, six assistant nurse managers, and one educator. There are 165 front line staff nurses and 11 scrub technicians. Collaboratively, they work to establish a safe environment and team to care for the patients. San Francisco Labor and Delivery Department is a patient-centered microsystem that has various processes to function effectively. Some processes require frequent revision to deliver patient centered care. These processes include admission, discharge, census management, medication administration, code cesarean section, and neonatal resuscitation. Processes need continuous discussion and revision in order to operate smoothly for patient safety. Collectively, on a monthly basis nurses, nurse leaders, doctors, residents, anesthesiologists, and scrub techs meet for the Perinatal Patient Safety Program to discuss adverse outcomes, processes, and quality improvement projects. This is a great venue that has representatives in each role who work together to voice their concerns and work on improvements.

### **Improvement Theme**

The Institute for Health Improvement quadruple aim is used for the improvement theme because it encompasses all aspects that are required to have a successful performance improvement project. The Quadruple Aim is enhancing patient experience, improving population health, reducing costs, and decreasing provider burnout. Burnout is associated with lower patient satisfaction, reduced health outcomes, and it may increase costs (Bodenheimer and Sinsky, 2017). Patient experience for operative deliveries is not ideal. Many mothers feel very disconnected with the birthing experience because traditionally in the operating room setting, the baby is directly taken to the warmer to be examined and then to the nursery to be watched until mom is out from recovery. Placing the baby directly on mom's chest has increased patient satisfaction with the connection of mom and baby. Skin-to-skin (SSC) placement in the golden hour of life increases the chances of successful exclusive breastfeeding. Exclusive breastfeeding facilitates healthy babies that transitions with them until adulthood and the rest of their life, overall improving population health. SSC is a catalyst to exclusive breastfeeding which reduces formula usage in the hospital therefore, reducing costs. SSC mandates a second nurse in the operating room, one for each patient, which decreases provider burnout with extra support.

### **Global Aim**

The global aim is to improve exclusive breastfeeding rates in the Perinatal Unit during the newborn's hospital admission. The process begins with skin-to-skin after birth and the process ends with breastfeeding support inpatient. By working on the process, we expect exclusive breastfeeding rates increase from 76% to 80%. It is important to work on this now because it is a national goal to increase exclusive breastfeeding rates for a healthier nation. Increased exclusive breastfeeding rates are important to the perinatal microsystem because it is aligned with the patient safety goals 2017 for the Maternal Child Health Department.

**Project Aim Statement**

The aim of the project is to improve the percentage of baby's bare chest placed skin-to-skin on mom's bare chest immediately after cesarean section birth from a baseline of 55% to 65% and standardize the process by December 2017.

### **Background**

Facilitating kangaroo care, skin-to-skin contact (SSC) between mother and baby at birth is challenging after cesarean delivery. Despite the obstacles, SSC helps the mother to breastfeed successfully and leads to many life-long health benefits (Moore, Anderson, Bergman, Dowswell, 2012). Early SSC after birth results in better breastfeeding, cardio-respiratory stability, thermoregulation, and blood-glucose levels (Gregson, Meadows, Teakle, & Blacker, 2016). SSC after cesarean decreases breastfeeding initiation time, increase the rates of breastfeeding duration and exclusivity, enhance infant feeding responses (Conroy & Cottrell, 2015). SSC in the operating room can facilitate healthier mothers and babies from the moment of birth by placing the baby's bare chest on mom's bare chest. "An estimate that the United States would save \$13 billion annually if 90% of infants were exclusively breast fed in the first six months of life" (Hung & Berg, 2011, 319). Exclusive breastfed babies have increased immune systems due to the antibodies provided from the mother's breast milk. The aim of the project is to improve the percentage of baby's bare chest placed skin-to-skin on mom's bare chest immediately after cesarean section birth will increase to 65% and standardize the process by December 2017 in the Labor and Delivery Unit.

### **Summary**

Cesarean Delivery generates a plethora of obstacles for mother and baby bonding. According to the World Health Organization (2003), hospitals should have a goal of >80% exclusive breastfeeding rates for all newborns during their acute hospital stay and it begins with immediate skin to skin (SSC) after birth which does not exclude the operating room. Currently, nurses in labor and delivery at Kaiser San Francisco place the baby SSC on mom about 55% of the time. There is a direct correlation with babies placed SSC on mom's chest in the golden hour after birth and increased exclusive breastfeeding rates in the first 6 months. Through the SSC project in the operating room nurses will place healthy babies on mom's bare chest less than ten minutes of birth and will understand the importance of SSC for the mom and baby.

### Family of Measures

#### Outcome, Process, and Balance Measures

Measure	Measure Definition	Data Collection Source	Goal
2 <sup>nd</sup> nurse assigned in OR as a baby nurse *process measure	N= c-sections assigned 2 nurses D= # of all c-sections	Data Collection Tool	100% of the time
Skin-to-skin performed *outcome measure	N= amount of times skin-to-skin performed D= # of all c-section births	Data Collection Tool	65% completion
Time to perform skin-to-skin *process measure	Amount of time to place baby skin-to-skin on mom	Data Collection Tool	X<10 minutes from birth time
Increase in infants with hypothermia *balance measure	N= Infants with hypothermia after c-section birth in the OR D= number of infants delivered in the OR	Electronic Medical Record of infant temperatures during SSC	X<5%

**Team Composition Sponsors**

USF Sponsors	Kaiser San Francisco Sponsors
Nancy Taquino (USF Preceptor)	Karen Fiala (Perinatal Director)
	Maya Denny (L&D Manager)

**Team for Skin-to-skin implementation at Kaiser San Francisco:**

Lead	Sarah Abdolcader
Champions	Bernie Farrell (L&D Charge RN)
	Melanie Samson (L&D Charge RN)
	Jessica Auld ( L&D Asst Nurse Manager)
	Laura Norell (L&D Staff Doctor)



### Measurement Strategy

#### Background (Goal Statement)

The baby nurse in the operating room will facilitate skin-to-skin immediately after birth and rates will increase from 55% to 65% by December 2017.

#### Population Criteria

The educator will train labor and delivery nurses to facilitate skin-to-skin effectively. The nursing staff will be the recipient of the education and implement immediately.

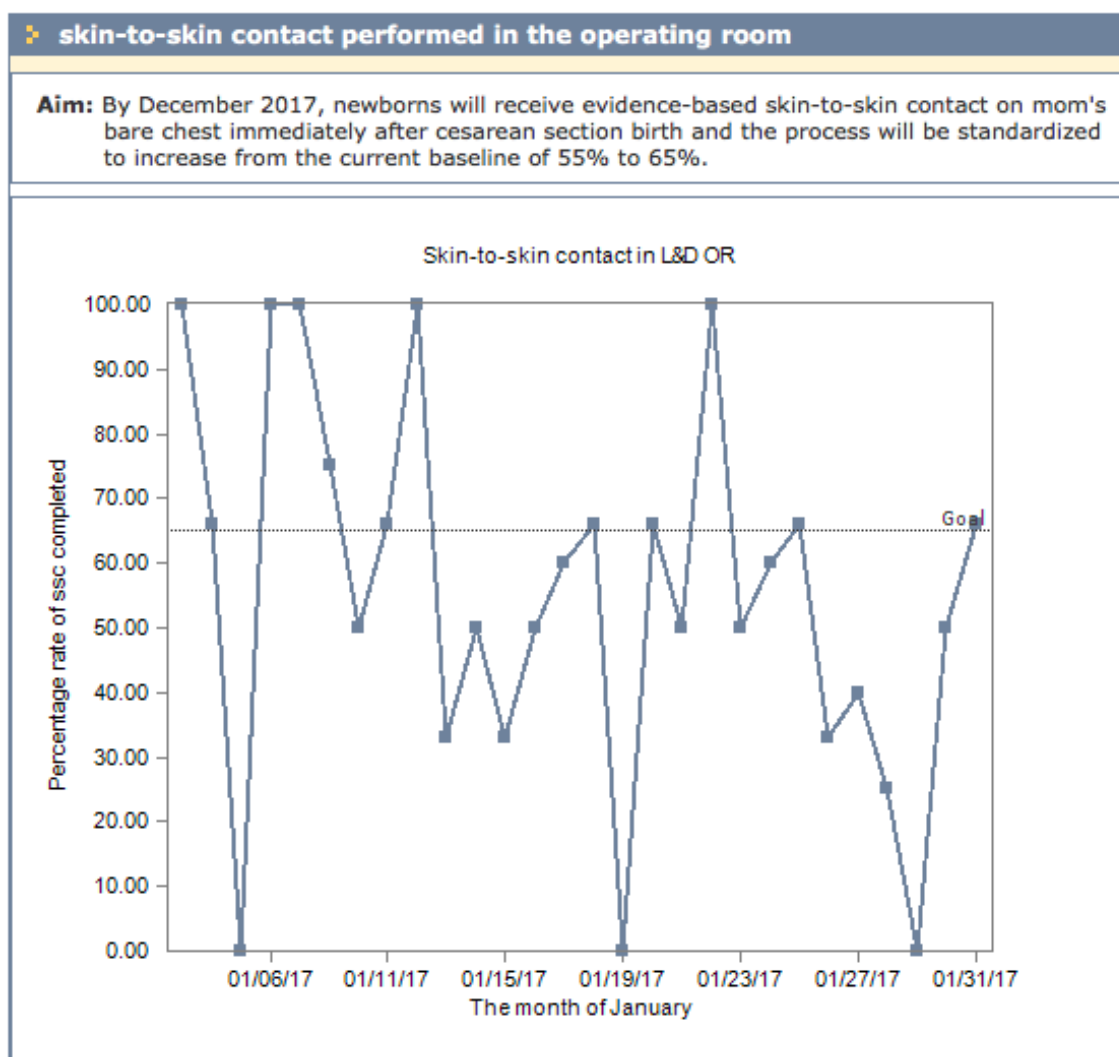
#### Data Collection Method

The educator or charge nurse will use a data collection tool for every cesarean section to see if nurses are placing newborns on mom skin-to-skin.

#### Data Definitions

Data Element	Definition
2 nurses assigned to all cesarean sections	Adequate staff nurses to provide safe skin-to-skin
2 <sup>nd</sup> nurse assigned to baby nurse	2 <sup>nd</sup> nurse present to stay with mom and baby and facilitate skin-to-skin safely
Skin-to-skin performed	Newborn placed skin-to-skin on mom
Time to perform skin-to-skin	Amount of time it took to place newborn skin-to-skin from birth

## Baseline Data with run chart



This is a run chart of the daily percentage SSC was performed in the Labor and Delivery Operating Room. There were no c-sections on January 1, 3, and 8 and were omitted from the graph. There was a total of 80 c-sections and 55% of the time SSC was performed. 44 newborns/80 c-sections were placed SSC after birth. Presently, the average is 55% and the goal is to increase SSC to 65% by December 2017. Baseline data was collected via a data collection tool from project leads or charge nurses for every c-section that occurred in the month of January 2017. The questionnaire consisted of a few questions: 1) Where there two nurses assigned to the c-section? 2) Was the baby placed skin-to-skin on mom? And if so, did it occur less than ten minutes from birth?

### **Recommendations for Changes**

The change is to initiate skin-to-skin contact immediately after a cesarean © section birth in the Labor and Delivery microsystem. Two nurses shall be assigned during c-section preparation and indicate who will be the baby nurse. If the mom and baby are stable, the baby nurse will facilitate placing the baby on mom's bare chest < 10 minutes after birth, and remaining with them to ensure safety. Baby nurses will fill out a questionnaire when the patient returns to the recovery room. These questions are to validate if there was adequate staffing to have a baby nurse, was skin-to-skin performed, how long did it take to place the baby on mom's chest, and does the nursing staff understand the importance of skin-to-skin. If there are some obstacles preventing skin-to-skin, the lead, champions, and labor and delivery nursing staff of the project can reconvene to eliminate possible barriers.

### **Changes to Test**

Placing a newborn Skin-to-skin (SSC) immediately after birth in the operating room (OR) requires an in-depth analysis on the current work flows and what is the standard of practice in the OR. Three changes to test that may contribute to the overall aim are improve workflow, change the work environment and enhance the producer/customer relationship (Batalden, Godfrey, and Nelson, 2007).

Improve workflow can be tested by ensuring the primary nurse remains the circulator and the second nurse is continues to solely be the baby nurse. Often times the second nurse is pulled into circulator nurse duties instead of remaining with the baby to assure SSC can be performed. This is a new work flow for the nurses since they function more as a second circulator instead of a baby nurse.

Change the work environment can be tested by a class presentation to delineate primary and secondary nurse duties and to demonstrate effective SSC. The OR is an onerous area to work in because a patient is undergoing surgery where many complications can arise, sterility must be maintained, and the space is restrictive. The second nurse should be properly trained on how to place the baby skin-to-skin with mom in a safe manner in a confined space and maintain sterility.

Enhance the producer/customer relationship can be tested through open forums where patients can share their experience, surveys, and direct leader rounding. Healthcare today is focused on patient-centered care, which encompasses patient care experience. Staff can benefit from hearing face-to-face feedback and verbatim comments from the patients to improve their practices. Currently, there are open forums that have a panel of patients who share their experiences at regional conferences. However, in the future the goal is to create open forums for patients in the perinatal setting.

**Skin-to-skin Project Timeline****Timeline**

	01/25	03/01	03/05	04/20	05/07	05/14
Define Topic						
Develop Charter						
Aim and Background						
Measures						
Measurement Strategy						
Driver Diagram						
Refine Measures and measurement strategy						
Finalize Charter						
Plan and prepare final presentation						
Final presentation						

### **Lessons Learned**

- Establish a true baseline with factual data versus an estimate.
  - To develop a credible performance improvement or quality project.
  - Baselines give the foundation of all projects.
  - Assessment is essential before beginning any project.
- Quality of Evidenced Based Research
  - Make sure research is credible
  - Score articles with the John Hopkins Nursing Evidence-Based Practice Tool to critique articles
  - Was there a meta-analysis performed? If so, what were the reviews and was it completed by valid and reliable methods?
- Need for staff input before implementing new changes
  - Projects have greater success rates with input from every discipline involved in the change.
  - This ensures buy in from critical key players in the multi-disciplinary team.
  - Creates a collaborative effort and everyone will feel valued.
  - Instills trust on the unit because staff members are able to participate in decisions.
  - Keeps staff members engaged and willing to implement change.
- Establish a questionnaire for the patients
  - Care should be patient-centered and their input matters the most because it is imperative that we take their opinions in to consideration.
  - Although staff is effected greatly, if patients do not desire the new intervention then it may not be in leadership's best interest to continue with the project. The goal is to improve the patient's experience while considering benefits of skin-to-skin.

## **CNL Competencies**

### **Organizational and Systems Leadership**

- Designing and implementing systems changes in the Microsystem .
- Use systems theory in the assessment, design, delivery, and evaluation of health care within complex organizations.
- Evaluate the efficacy and utility of evidence-based care delivery approaches and their outcomes at the microsystem level.
- Collaborate with healthcare professionals, including physicians, advanced practice nurses, nurse managers and others, to plan, implement and evaluate an improvement opportunity.

### **Translating and Integrating Scholarship into Practice**

- Facilitate practice change based on best available evidence that results in quality, safety and fiscally responsible outcomes.
- Implement strategies for encouraging a culture of inquiry within the healthcare delivery team.
- Communicate to the interprofessional healthcare team, patients, and caregivers current quality and safety guidelines and nurse sensitive indicators, including the endorsement and validation processes.
- Disseminate changes in practice and improvements in care outcomes to internal and external audiences.

### **Interprofessional Collaboration for Improving Patient and Population Health Outcomes**

- Create an understanding and appreciation among healthcare team members of similarities and differences in role characteristics and contributions of nursing and other team members.
- Facilitate collaborative, interprofessional approaches and strategies in the design, coordination, and evaluation of patient-centered care.
- Assume a leadership role, in collaboration with other interprofessional team members, to facilitate transitions across care settings to support patients and families and reduce avoidable recidivism to improve care outcomes.

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- Bodenheimer, T. & Sinsky, C. (2014). From triple to quadruple aim: care of the patient requires care of the provider. *Annals of Family Medicine* 12: 573-576.
- Conrey, C.C. & Cottrell, B.H. (2015). The influence of skin-to-skin contact after cesarean on breastfeeding rates, infant feeding responses, and maternal satisfaction. *Journal of Obstetric, Gynecologic, and Neonatal Nursing* 44 (1):61-65.
- Gregson, S., Meadows, J., Teakle, P., and Blacker, J. (2016). Skin-to-skin after elective cesarean section: investigating the effect on breastfeeding rates. *British Journal of Midwifery*, 24(1) 18-25.
- Hung, K.J. & Ber, O. (2011). Early skin-to-skin after cesarean to improve breastfeeding. *Maternal Child Nursing* 36(5): 318-324.
- Moore, E.R., Anderson, G.C., Bergman, N., Dowswell, T. (2012). Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochranne Database Syst Rev* 5:CH003519. Doi:10.1002/14651858.CD003519.pub3
- World Health Organization. (2003). Protecting, promoting and supporting breastfeeding: the special role of maternity services.



## Appendix D

## Evaluation Tables

Conrey, C.C. & Cottrell, B.H. (2015). The influence of skin-to-skin contact after cesarean on breastfeeding rates, infant feeding responses, and maternal satisfaction. *Journal of Obstetric, Gynecologic, and Neonatal Nursing* 44 (1):61-65.

Conceptual Framework	Design/Method	Sample/Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
None	Quasi-experimental design with 40 dependent sampling and a mixed-methods approach	41 mothers who delivered via c-section, term, and healthy at delivery at the Women's Pavilion Hospital	Patients were recruited by nurses in the pre-op admission by nurses. N=25 was the intervention group where babies were placed skin-to-skin 40 dependent 40y after birth. N=16 for babies did not have skin-to-skin in the OR (current standard practice)	The measurement included exclusive breastfeeding rates. They were exclusively measured by a phone survey at 4 and 12 weeks postpartum.	A chi-square was used to present the differences in the experimental and control group breastfeeding initiation, duration, and exclusivity, infant feeding responses, and maternal satisfaction.	The participants who experienced immediate SSC had significantly earlier breastfeeding initiation, significantly longer durations of overall breastfeeding, and significantly greater rates of exclusive breastfeeding that participants in the comparison group. The qualitative analysis of maternal satisfaction was multifactorial and influenced by several perioperative and postpartum factors. The findings suggest that SSC after cesarean decrease breastfeeding initiation time, increase the rates of breastfeeding duration and exclusivity, enhance infant feeding responses, and further promote maternal satisfaction.	The clinical significance for this study is valued because it showed that SSC after the operating room had a lot of benefits especially related to breastfeeding. Using the JHEBP, this study is rated as L2 B, (B= good quality).

Charpak, N. et al. (2017). Twenty-year follow-up of kangaroo mother care versus traditional care. *Pediatrics* 139 (1): 1-10.

Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
None	Retrospective Study of an RCT	264 participants were re-enrolled from an RCT conducted in Columbia 20 years ago from 1993-1996. Participants were infants who weighed <2000g at birth, survived the transition to extrauterine life and were eligible for neonatal minimal care.	Randomly assigned 20 years ago to Kangaroo Mother Care (KMC) or traditional care	In a 3-day evaluation, each participant underwent a full medical examination and battery of psychological and neuropsychological assessments; and house visits with collection of complete education and work histories.	Categorical variables were compared using Fisher's exact tests; numerical discrete and continuous variables were compared in parametric and nonparametric tests. Alpha P values < .05 were considered significant. Comparison of KMC benefits for <2000 g at birth to no KMC from 20 years ago.	<p>No overall or specific differences in mean IQ scores were found between KMC and control group at 20 years.</p> <p>Fewer members from the KMC group had been temporarily absent from school and they had higher average hourly wages.</p> <p>Neurological examinations identified cerebral palsy at the same rate in the 2 groups with more motor deficit in the control group.</p> <p>Participants with IUGR in both groups were short at 20 years, with no difference between the 2 groups.</p> <p>At 20 years, participants in the KMC group were more employed.</p> <p>In both groups scores were equivalent in math and language.</p>	The clinical significance for this study is valued because it showed the effect of KMC for infants weighing <2000g at birth. Using the JHEBP, this study is rated as L1 A, (A=high quality).

Gregson, S., Meadows, J., Teakle, P., and Blacker, J. (2016). Skin-to-skin after elective cesarean section: investigating the effect on breastfeeding rates. *British Journal of Midwifery*, 24(1) 18-25.

Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
None	Randomized control study	The sample size was 366 women having an elective c-section at term, greater than or equal to 37-week gestation, and chose to exclusively breastfeed.	After patients were recruited, they were randomly assigned in the study and control groups. 182 babies in the study group had immediate SSC after delivery and 187 babies in the control group had standard care SSC after the operation. As an intervention, the patients within the study group were given a Kangaroo Wrap Kardi, a garment to facilitate SSC, to wear	The measurement was to dependent the effects of dependent SSC in the operating room following a cesarean section. Breastfeeding rates were measured at 48 hours, 10 days, and 6 weeks.	Breastfeeding rates were measured at 48 hours, 10 days, and 6 weeks. Fisher's test was used to display results for data analysis. The two groups were compared for factors that per chance can affect breastfeeding comprising of parity, age, ethnicity, body mass index, gestational age, birth weight, presence of meconium and apgars. This study was statistically significant with a p level <.05 and a confidence interval of 95 percent with all tests two-tailed.	The participants who had > than 12 hours of SSC during the first 24 hours, 100 percent were exclusively breastfeeding at 48 hours, and a longer SSC contact was associated with a significantly lower occurrence of artificial feeding at 48 hours and 6 weeks.	The clinical significance for this study is dependent because it shows a correlation of SSC immediately after birth and increased breastfeeding rates after birth. Using the JHEBP, this study is rated as L1 A, (A=high quality).

			underneath their operation gown before they went to the operating room, and they were encouraged to perform SSC as often as possible for the first 48 hours after birth.				
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Hung, K.J. & Berg, O. (2011). Early skin-to-skin after cesarean to improve breastfeeding.  
*Maternal Child Nursing* 36(5): 318-324.

Conceptual Framework	Design/Method	Sample/Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
None	Experimental study with retrospective data analysis	Mothers of term babies born via c-section at San Francisco General Hospital over a 9 month period.	The control group was the SSC rates prior to implementing SSC and the breastfeeding rates of term infants born via c-section. The experimental group is term babies eligible to participate in SSC according to apgar scores placed SSC.	SSC rates at SF General and LATCH breastfeeding scores in the hospital.	LATCH scores were obtained from the patients charts and SSC time was also recorded in the charts after birth. Results were presented in a line graph to compare SSC and breastfeeding rates prior to intervention and after.	A compilation of data during the 9 months following the intervention shows a higher average in-hospital LATCH score among infants who experienced SSC with in 90 minutes of birth. Also, healthy infants born by cesarean who experienced SSC in the OR had lower rates of formula supplementation in the hospital. During the first 3 months of the intervention, the rate of SSC increased from 20% to 68%. Nine months after the intervention, babies who had SSC in the OR had a 9% decrease in formula supplementation.	The clinical significance is highly valued because of the 40% increase in skin-to-skin after birth with a proper method and intervention and the decreased formula supplementation rates. Using the JHEBP, this study is rated as L2 B, (B=good quality).

Velandia, M., Uvnas-Moberg, K., and Nissen, E. (2011). Sex differences in newborn interaction with mother or father during skin-to-skin contact after caesarean section. *Nurturing the Child (101)* pg. 360-367.

Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal : Worth to Practice
None	Part of a larger Randomized Control Trial	37 parents with newborn selected  20 fathers and 17 mothers (newborns) were randomized to 25 min of SSC with one or the other parent immediately after birth.  In order to participate, the mother had to have a healthy, uncomplicated pregnancy	A healthy newborn between 38-42 weeks gestation was randomized to SSC with either mother or father for 5-30 after birth. A person collecting research data randomly selected with the newborn would be placed SSC with mother or father via the day of c-section prior to entering in the OR.  If mothers were to perform SSC, the newborn would be placed 45 depended	Investigate differences of breast-feeding and crying between male and female 45 depended in SSC contact with their mother or father after c-section.	Video recording began immediately after birth and for 90 minutes after to see if there is a difference between the sexes and with SSC performed with either parent.	Females were rooting and breast-seeking earlier than males.  Newborns whether male or female started breastfeeding earlier if they had a continuous skin-to-skin with the mother.  Mothers were more interactive with the both sexes regarding affection, kissing, talking, touching, and smiling.  Skin-to-skin contact with the mother accelerated the time point for the infants' first breast.	The clinical significance is great because it shows with continuous SSC with mom, 45 depended had the first breastfeeding encounter with a median of 117.5 min and for infants in SSC with the father there was a median of 235 min.  Using the John Hopkins Nursing Evidence-Based

		cy, term between 38-42 weeks gestatio n, and have a 5 minute apgar of 7.	4646y on mom's chest. If father's were selected to perform SSC, newborns were placed on mom SSC for 5 min and then with father for 25 min.				Practice tool (JHEBP) , this study is rated as L1 B, (B=good quality).
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Zanardo, V., Svegliado, G., Cavallin, F., Giustardi, G., Cosmi, E., Litta, P., and Trevisanuto, D.  
(2010). Elective cesarean delivery: does it have a negative effect on breastfeeding?  
*Birth* 37 (4): 275-279.

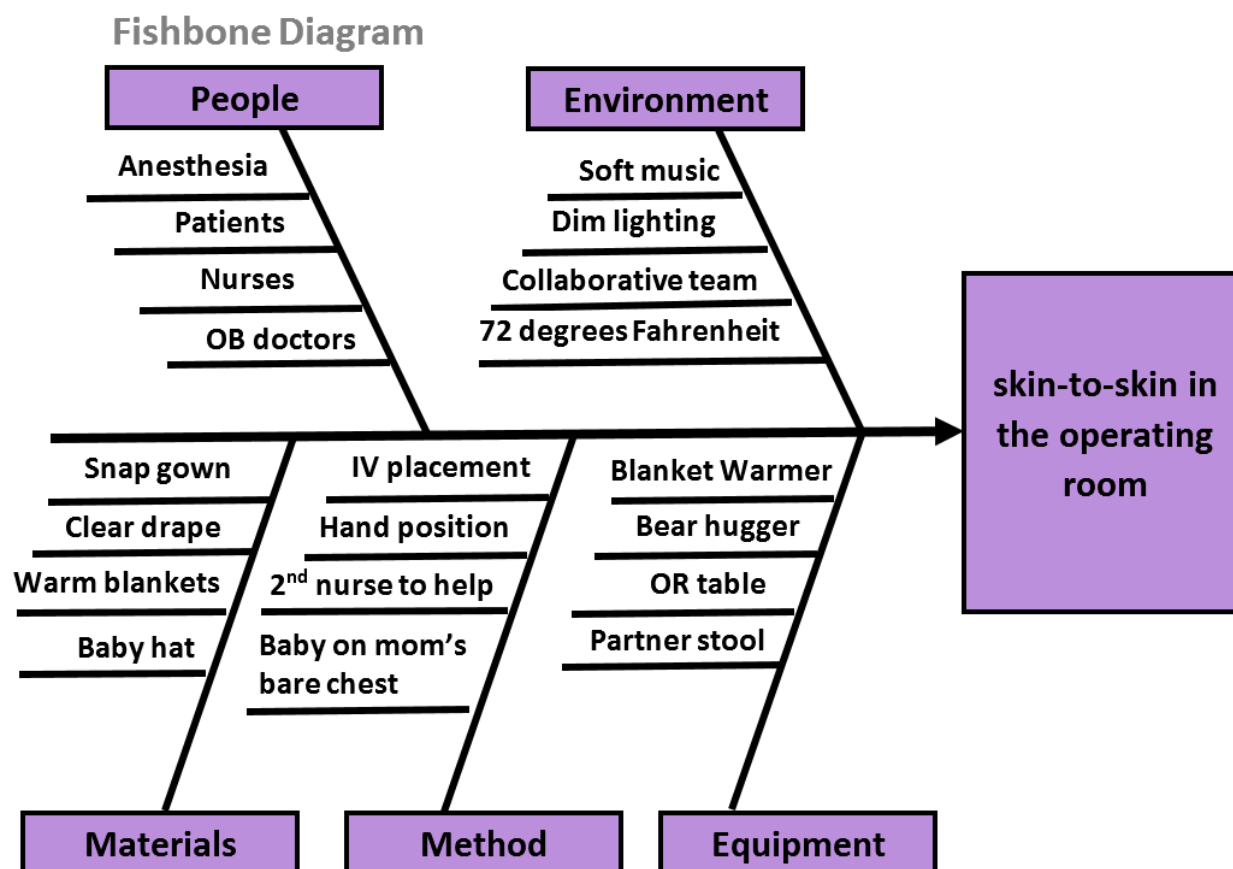
Conceptual Framework	Design/Method	Sample/Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
None	Non-experimental Observational Study	2,137 term infants that 47 participated at the Department of Pediatrics in the University of Padua School of Medicine in Italy between the dates' January 1 through December 31 2007	From the 2,137 deliveries, only 1,567 participated in the phone interviews due to refusal, admission to the intensive care nursery, or they were unable to speak and read Italian.	Formula and breastfeeding rates dependents on dietary at discharge, 7 days, 3 months, and 6 months.	A chi-square or Fisher exact test was used for differences between vaginal and cesarean births. Data on mode of delivery, gestational age, birth weight, apgar scores, and breastfeeding initiation and duration rates were recorded for all newborns and subsequently entered into a computer database by trained personnel.	Breastfeeding rates of a vaginal delivery were 87 percent at discharge, 83 percent at 7 days, 69 percent at 3 months, and 59 percent at 6 months. Breastfeeding rates of a cesarean section were 73 percent at discharge, 74 percent at 7 days, 55 percent at 3 months, and 42 percent at 6 months.	The clinical significance is immense because of the drastic differences in breastfeeding rates 47 depended upon the mode of delivery. It is almost a 20% difference between the modes of delivery and exclusive breastfeeding rates. Using the John Hopkins Nursing Evidence-Based Practice



							tool (JHEBP), this study is rated as L3 B, (B=good quality).
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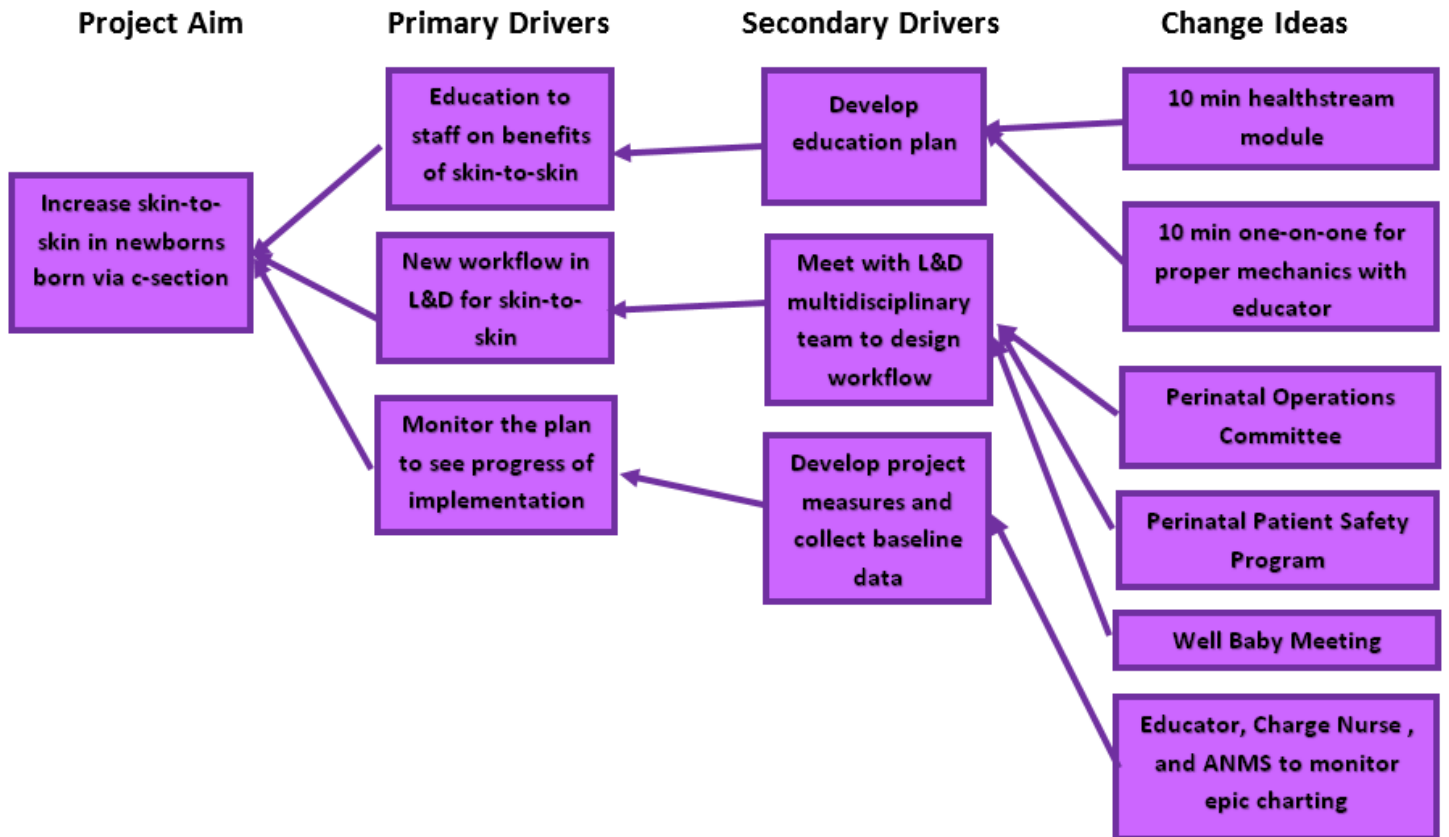
## Appendix E

## Fishbone Diagram



## Appendix F

## Driver Diagram



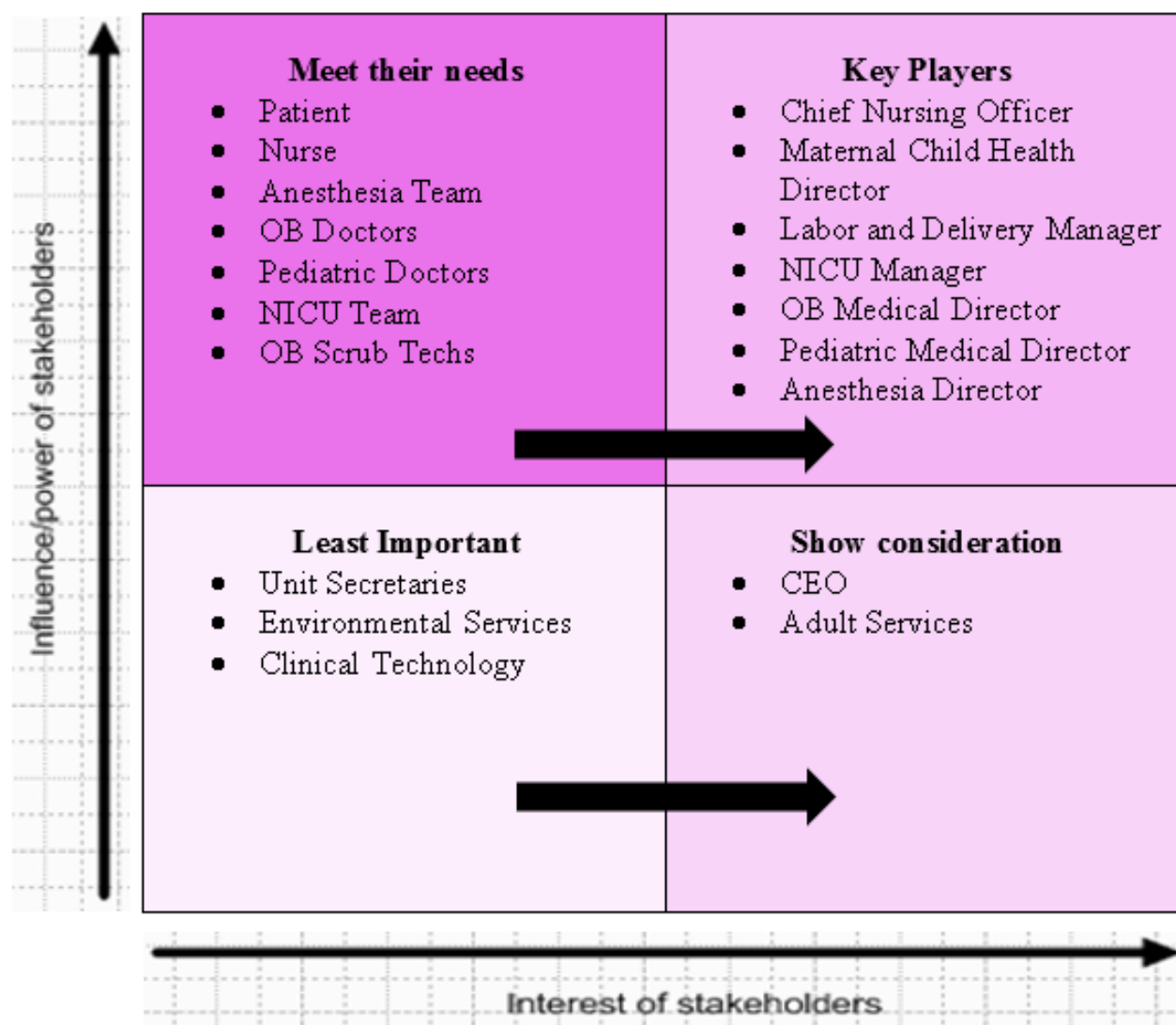
## Appendix G

## SWOT Analysis

<ul style="list-style-type: none"> <li>• Strengths</li> <li>• Skin-to-skin is not a new phenomenon</li> <li>• We do skin-to-skin for vaginal deliveries already</li> <li>• Majority of nurses in L&amp;D are willing to do skin-to-skin in the OR</li> <li>• There already 2 nurses assigned in the OR</li> </ul>	<p style="text-align: center;">Weaknesses</p> <ul style="list-style-type: none"> <li>• Not all nurses know the benefits of skin-to-skin</li> <li>• The second nurse in the OR performs primary nurse duties</li> <li>• Second nurses' coming from the ICN are not trained to complete skin-to-skin in the OR and may be reluctant to the new change</li> </ul>
<p style="text-align: center;">Opportunities</p> <ul style="list-style-type: none"> <li>• AWHONN conference promotes skin-to-skin in the OR and they are considered the Gold standard for L&amp;D</li> <li>• WHO, JACHO, AWHONN, Kaiser Permanente all promote skin-to-skin as a part of the Baby friendly initiative and exclusive breastfeeding goals</li> </ul>	<p style="text-align: center;">Threats</p> <ul style="list-style-type: none"> <li>• Second nurse not compliant with the new guidelines</li> <li>• New process for charting skin-to-skin in the Electronic Medical Record (EMR).</li> <li>• Not all of the anesthesia personnel is on board with skin-to-skin in the OR</li> </ul>

## Appendix H

## Stakeholder Analysis



## Appendix I

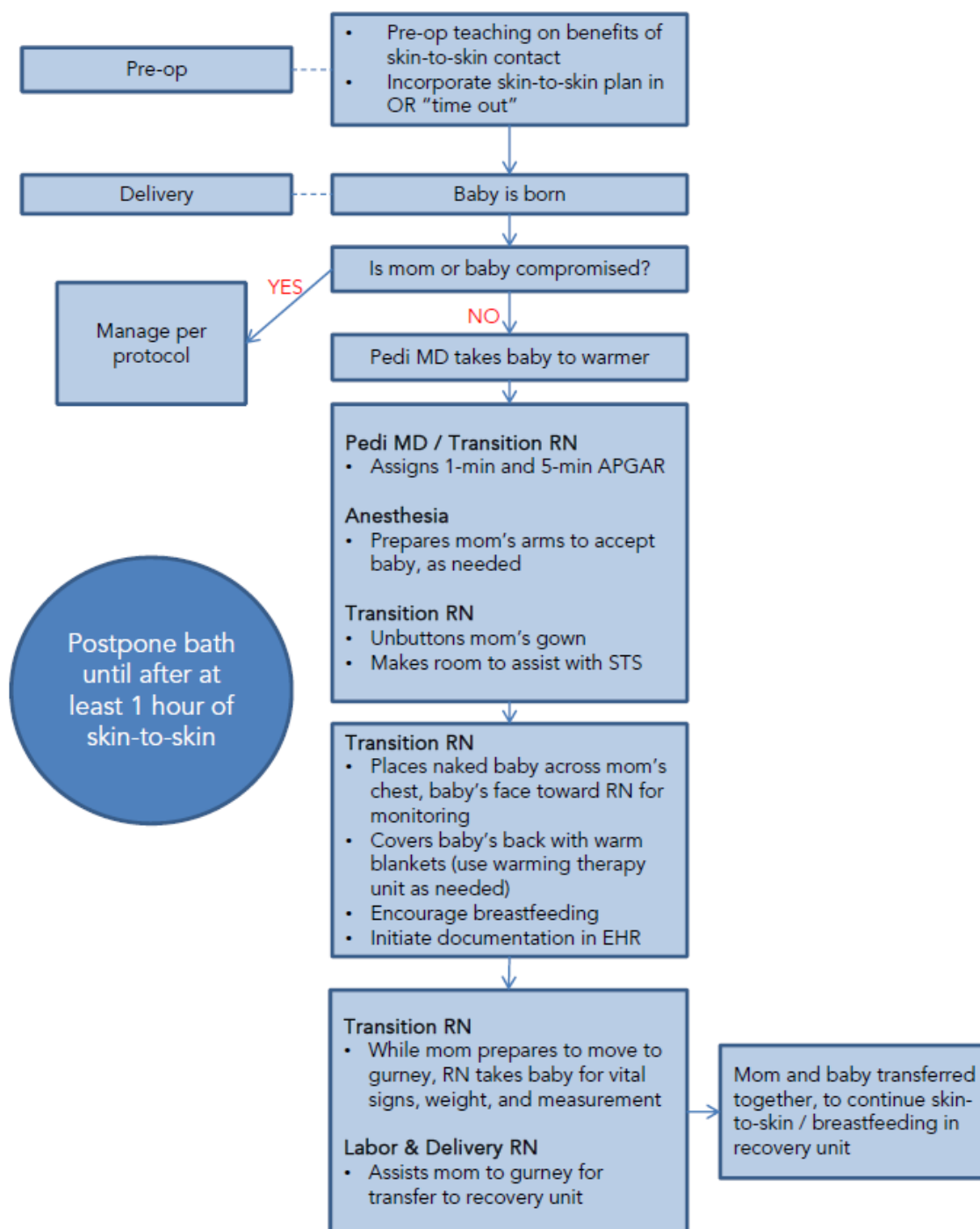
## Timeline

	Jan/2017	Feb, March, April/2017	May, June/2017	July/2017	August/2017	Sept- Dec/2017
Define Topic 5P's assessment						
Baseline data						
Meet with multi- disciplinary team						
Develop Charter						
Aim and Background						
Measures						
Measurement Strategy						
Driver Diagram						
Educational Process Development						
Education roll out						
Huddles						
One-on-one support in the OR						
Sustainability						
Data collection						
Education reinforcement						

## Appendix J

## Process map

## Process map: Skin-to-skin (STS) after C-Section



## Appendix K

## Tools Developed



## Sample Documentation Guide

### EHR Charting Procedure: Skin-to-skin and initial breastfeeding

#### I. Proper Documentation of skin-to-skin after Vaginal Birth

**Goal:** Skin-to-skin for at least 30 minutes within one hour of birth. If this cannot be met, please document WHY skin-to-skin was not completed (e.g., maternal condition, infant condition, etc...)

- 1) Doc Flowsheets → Initial Physical Assessment → Insert column with **actual time** of skin-to-skin
- 2) Document **Initial skin-to-skin completed** and **Total Minutes**. \*Both components need to be documented in order to reflect your hard work. Total Minutes should be documented in **same** column with time skin-to-skin **started**.

#### II. Proper Documentation of skin-to-skin after Caesarean Birth

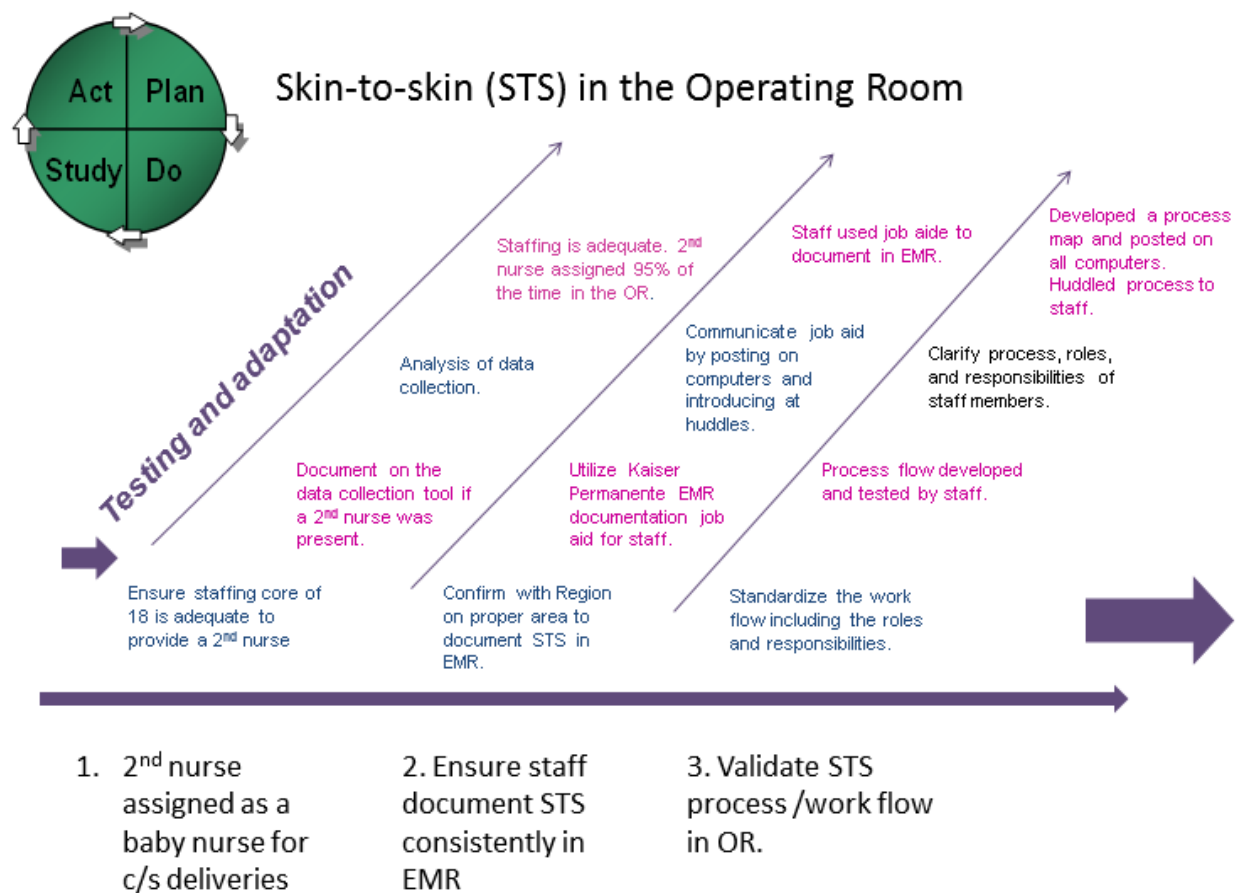
**Goal:** Infant is placed skin-to-skin for **30 minutes** or longer within two hours of c-section delivery. If not completed, please document "reason not done". Note: Skin-to-skin for a few minutes in the OR does NOT fulfill this goal; skin-to-skin must also be completed in the PACU (preferably at first feed).

- 1) Doc Flowsheets → Initial Physical Assessment → Insert column with **actual time** of Skin-to-skin
  - 2) Document **Initial skin-to-skin completed** and **Total Minutes**. \*Both components need to be documented in order to reflect your hard work. Again, total minutes should be documented in **same** column with time skin-to-skin **started**.
- Note: PACU RN should document additional skin-to-skin in Recovery.



## Appendix L

## PDSA Cycles



## Appendix M

## Results

